

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : ☐																					

Work Order ID 150038

Tuesday, August 23, 2016 8:12:14 AM

150038

Page 2

Item ID: D3674-043

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Roller Bracket Assembly

Start Date: 8/24/2016 Start Qty: 7.00

7

Cust Item ID:

Required Date: 9/2/2016 Req'd Qty: 7.00

7

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC2- Inspect parts off machine FAI/FAIB	0.00				7	0		DAS 14 9-89 16/08/25
120									
QC	Memo	0.01							
Quality Control									
130	QC8- Inspect parts - second check	0.00				7	0		DAS 49 9-89 16/08/30
130									
QC	Memo	0.02							
Quality Control									
140	Small Fab	0.00				7x			DAS 36 9-89 16/08/31
140									
Small Fab	Memo	0.06							
Small Fab	Assemble D3674-043 as per Dwg D3674.								

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 150038

Tuesday, August 23, 2016 8:12:14 AM

150038

Page 3

Item ID: D3674-043

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Roller Bracket Assembly

Start Date: 8/24/2016 Start Qty: 7.00

7

Cust Item ID:

Required Date: 9/2/2016 Req'd Qty: 7.00

7

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00							
150						7			DAS 38 9-89
QC	Memo	0.02							ATTG 3 1 2016
Quality Control									
160	Identify as per dwg & Stock Location <u>stoso</u>	0.00							SEP 02 2016
160									
Packaging	Memo	0.01							
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									DAS 21 9-89
QC	Memo	0.12							SEP 07 2016
Quality Control									

DAS
21
9-89

SEP 07 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER :																									

Tuesday, August 23, 2016 8:12:14 AM

Page 1

150038

D3674-043

Start Date: 8/24/2016**Required Date:** 9/2/2016

Start Qty: 7.00

Required Qty: 7.00

Comments: IPP Rev: A RQ. 16.07.11 Verified by DD.

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3121-21		Manufactured	No				Each	59.0000		14			
D3121-21 Bolt													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				ST018			59						
					147276		18						
					148148		41						
D3183-045		Manufactured	No				Each	27.0000		14			
D3183-045 Bearing Assembly													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				FG			4						
					139821		2						
					141815		2						
				ST021			23						
					149953		23						
M174B1.500X02.250		Purchased	No			100	f	4.4170	0.466	3.433684			
M174B1 500X02 250 17-4 SS Bar 1.50 X2.250													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				MAT010			4.417						
					m133511		4.417						

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

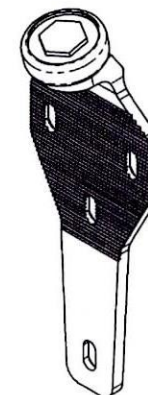
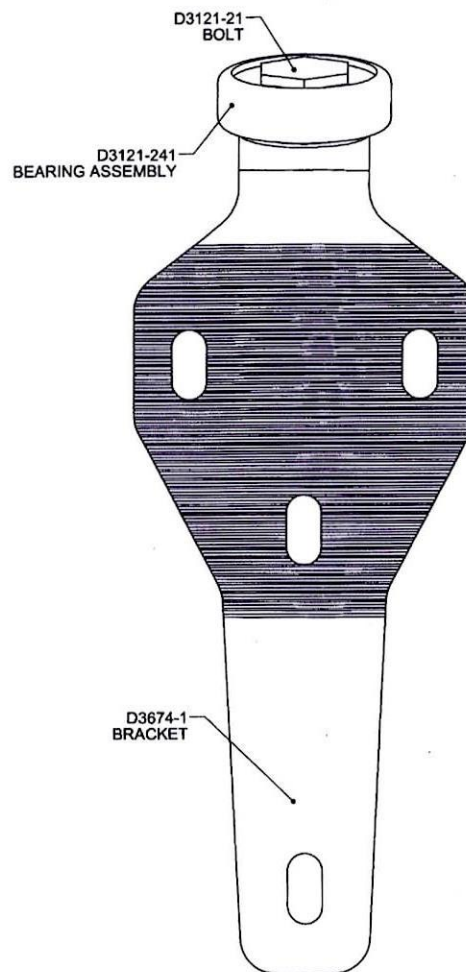


QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																																		
Large Fab ☐	Composite ☐	Supplier ☐																																																																			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																	
Description Work Order Deviation		Disposition			Completed By																																																																
					Lead hand / Supervisor Approval Verification																																																																
					QC / QA Coordinator Approval																																																																
Root Cause <table style="width:100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> </tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="border: none;">Pressure/Forced ☐</td> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Bending ☐</td> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Centre Not Concentric ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Cracks ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Cuffs ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Crushing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Heat Treat ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Wave/Twist in Tube ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Marks/Chatter ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>				Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Environment ☐	No Re-verification ☐																																																																				
Design ☐	Operator ☐																																																																				
Doc/Data ☐	Offset/Setup ☐																																																																				
Equip/Tooling ☐	Supplier ☐																																																																				
Handling/Pre ☐	Training ☐																																																																				
Material ☐	Use for Testing ☐																																																																				
Internal Transport ☐	Poor Information ☐																																																																				
Tribal Knowledge ☐	Rushing ☐																																																																				
LOA ☐	Product Improvement ☐																																																																				
Substation ☐	Process Improvement ☐																																																																				
Past Expiry Date ☐	Manufacturing Process ☐																																																																				
Misidentified ☐	Past Due ☐																																																																				
Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																																																																		
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																																																																		
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																																																																		
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																																																																		
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																																																																		
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																		
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																		
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																		
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																		
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																		
		OTHER :																																																																			

ITEM	QTY	P/N	DESCRIPTION
	X	D3674-041	ROLLER BRACKET ASSEMBLY
1	1	D3674-1	BRACKET
2	1	D3121-21	BOLT
3	1	D3121-241	BEARING ASSEMBLY



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 150038

elm 16/08/23

NOTES:

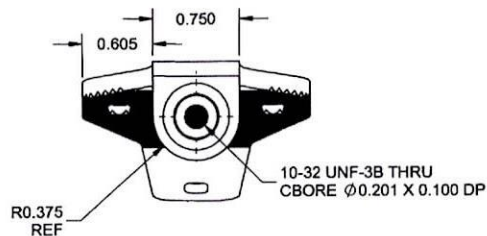
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.31 lbs
- 8) TORQUE D3121-21 BOLT 15-25 in lbs (1.7-2.8 Nm)

D3674-041 ROLLER BRACKET ASSEMBLY

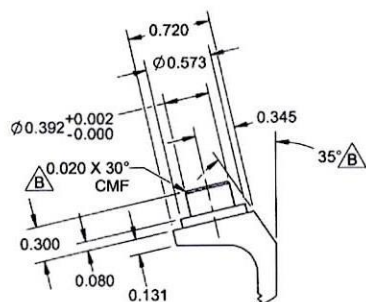
RELEASED
2016-07-26
EW 16-531

APPROVED

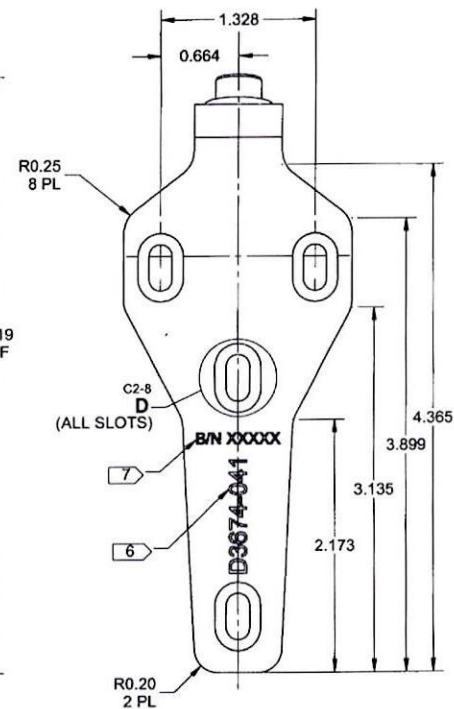
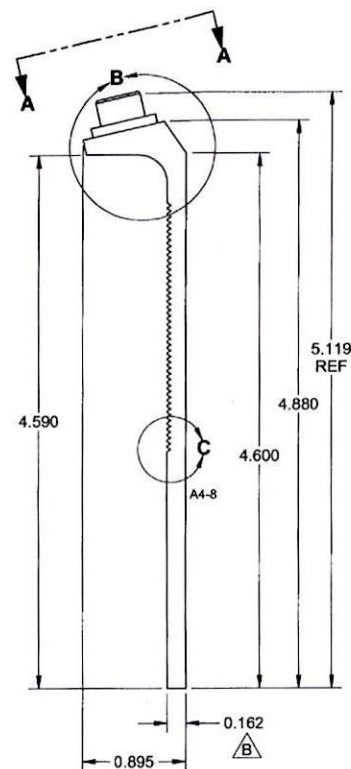
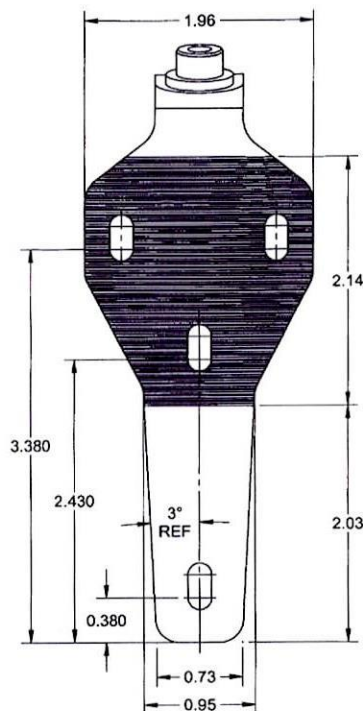
B	GENERAL UPDATE TO CURRENT STANDARDS. ADD -3/-5/-7/-8/-043/-044/-045. FOR BELL COMPOSITE DOOR. B3-2 DIM 0.162 WAS 0.130. B7-2 35" WAS 30". SHT 2 UPDATE NOTE 6. SEE PAR 16-501.		AJS	16.06.01
A	NEW ISSUE		AJS	08.03.28
REV.	DESCRIPTION		BY	DATE
DESIGN	AJS	DART AEROSPACE LTD		REV. F SHEET 1 OF 1
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA		
CHECKED	MB	DRAWING NO.		
MFG. APPR.	RQ	D3674		
APPROVED	WM	TITLE		
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	NTS	
DATE	16.06.01		COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



VIEW A-A



DETAIL B



D3674-1 BRACKET

NOTES:

- 1) MATERIAL: 17-4 PH, STAINLESS STEEL BAR
PER AMS 5604/5643
GRAIN DIRECTION MUST BE ALONG THE LENGTH OF THE BRACKET
MINIMUM YIELD TENSILE STRENGTH = 100 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 150 ksi
REF. DART SPEC. M17-4-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3674-041" WITH 0.15 HIGH LETTERS TO A
MAX DEPTH OF 0.010 IN AREA SHOWN.
- 7) IDENTIFICATION: SCRIBE B/N PER QSI 044 6.4
- 8) WEIGHT: 0.27 lbs
- 9) BASIC PROFILE OF D3674-1 BRACKET TAKEN FROM D3121-141 REF.
- 10) ALL NON DIMENSIONED FEATURES PER CAD FILE "D3674-1RevB.STP/SLDPRT"

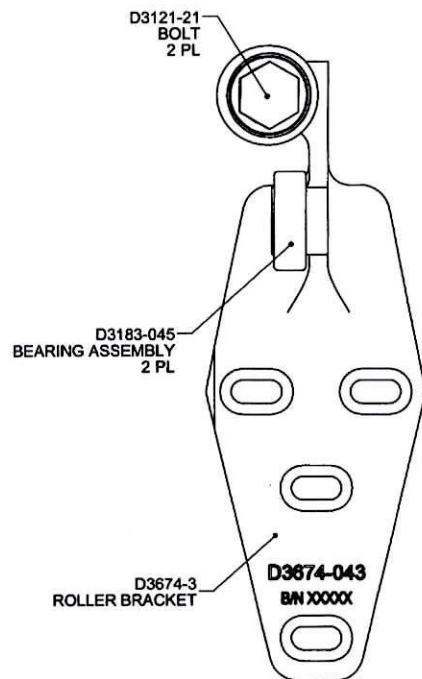
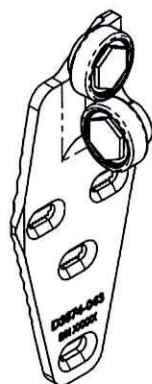
RELEASED
2016-07-26

APPROVED

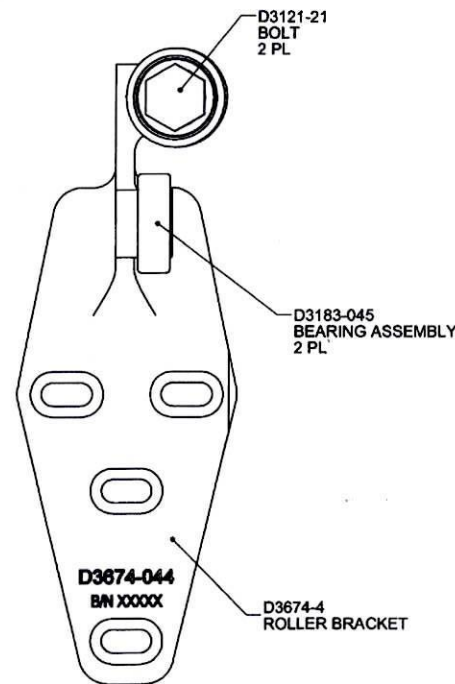
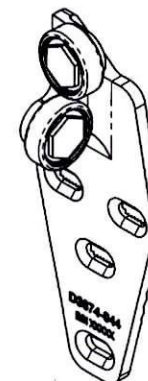
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	RQ	D3674	SHEET 2 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	
DATE	16.06.01	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE, OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ITEM	QTY	P/N	DESCRIPTION
	X	D3674-043	ROLLER BRACKET ASSEMBLY
1	1	D3674-3	ROLLER BRACKET
2	2	D3183-045	BEARING ASSEMBLY
3	2	D3121-21	BOLT

ITEM	QTY	P/N	DESCRIPTION
	X	D3674-044	ROLLER BRACKET ASSEMBLY
1	1	D3674-4	ROLLER BRACKET
2	2	D3183-045	BEARING ASSEMBLY
3	2	D3121-21	BOLT



D3674-043 ROLLER BRACKET ASSEMBLY



D3674-044 ROLLER BRACKET ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.37 lbs
- 8) TORQUE D3121-21 BOLT 15-25 in lbs (1.7-2.8 Nm)

APPROVED

DESIGN	AJS
DRAWN	AJS
CHECKED	MB
MFG. APPR.	RQ
APPROVED	WM
DE APPR.	DS
DATE	16.06.01

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D3674	REV. B SHEET 3 OF 8
TITLE ROLLER BRACKET ASSEMBLY	SCALE NTS
COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED
2016-07-26

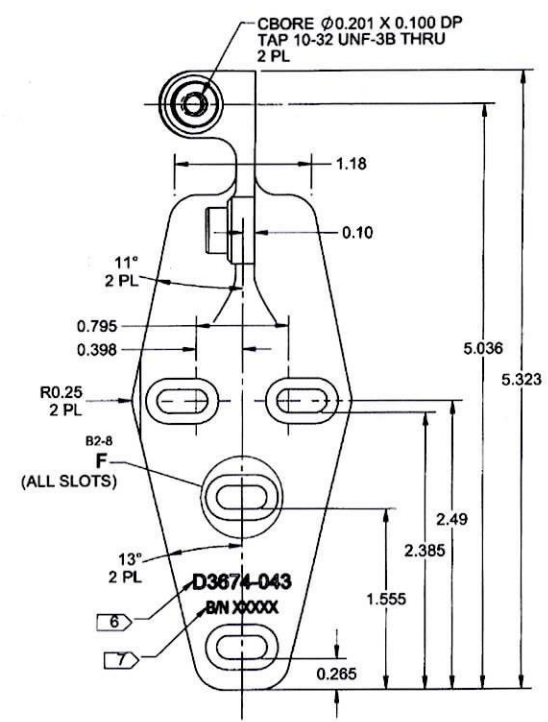
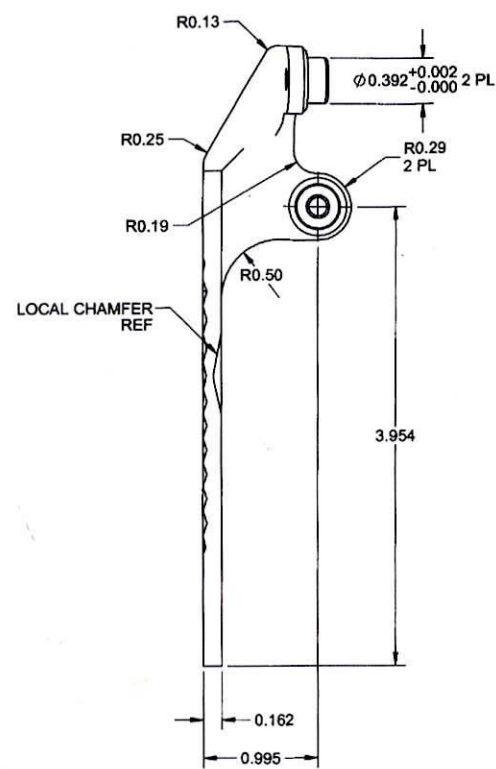
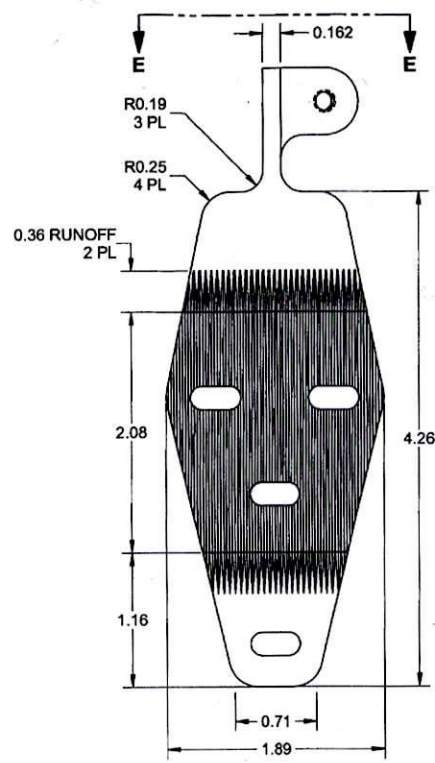
8 7 6 5 4 3 2 1

D

C

B

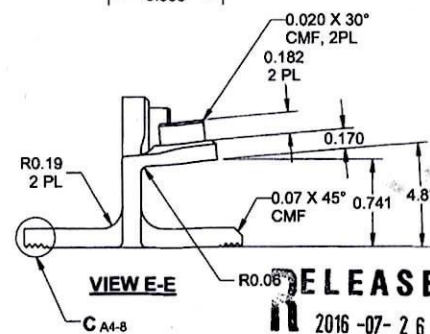
A



D3674-3 ROLLER BRACKET

NOTES:

- 1) MATERIAL: 17-4 PH, STAINLESS STEEL BAR
PER AMS 5604/5643
GRAIN DIRECTION MUST BE ALONG THE LENGTH OF THE BRACKET
MINIMUM YIELD TENSILE STRENGTH = 100 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 150 ksi
REF. DART SPEC. M17-4-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3674-043" WITH 0.15 HIGH LETTERS TO A
MAX DEPTH OF 0.010 IN AREA SHOWN.
- 7) IDENTIFICATION: SCRIBE B/N PER QSI 044.6.4
- 8) WEIGHT: 0.31 lbs
- 9) ALL NON DIMENSIONED FEATURES PER CAD FILE "D3674-3RevB.STP/SLDPRT"

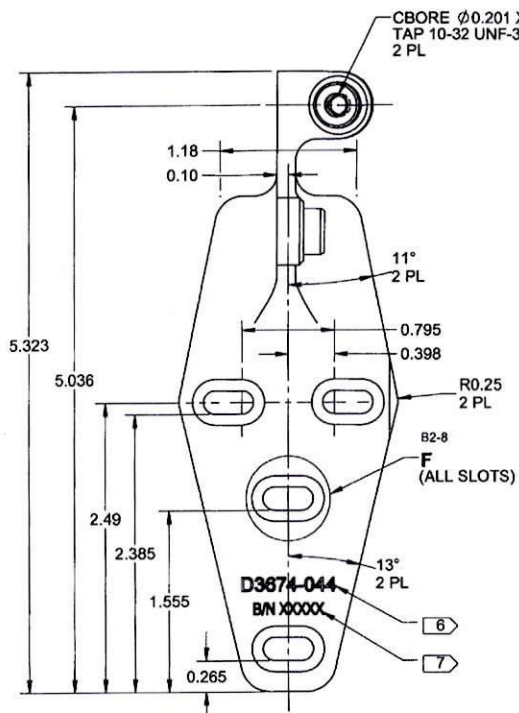


RELEASED
2016-07-26

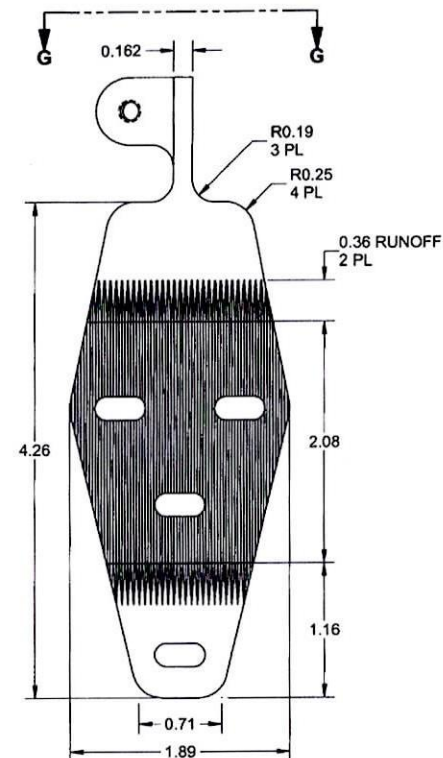
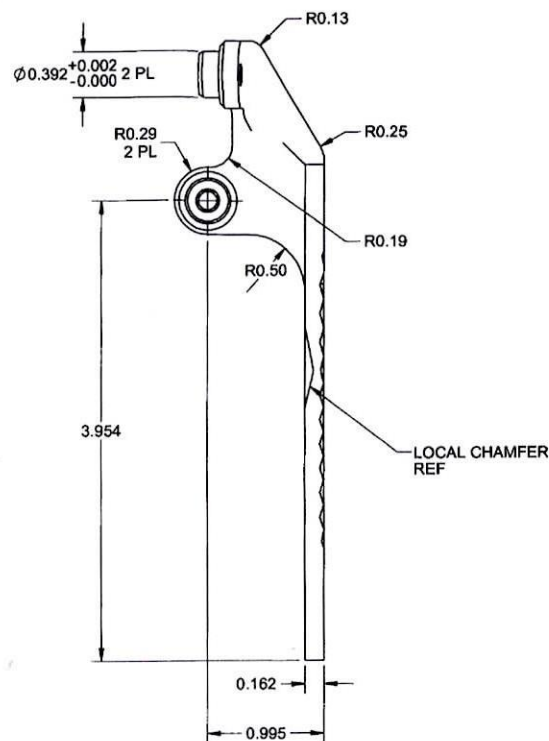
APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	RQ	D3674	SHEET 4 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	NTS
DATE	16.06.01	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

8 7 6 5 4 3 2 1

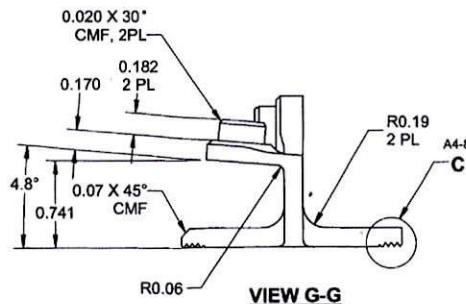


D3674-4 ROLLER BRACKET



NOTES:

- 1) MATERIAL: 17-4 PH, STAINLESS STEEL BAR
PER AMS 5604/5643
GRAIN DIRECTION MUST BE ALONG THE LENGTH OF THE BRACKET
MINIMUM YIELD TENSILE STRENGTH = 100 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 150 ksi
REF. DART SPEC. M17-4-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3674-044" WITH 0.15 HIGH LETTERS TO A
MAX DEPTH OF 0.010 IN AREA SHOWN.
- 7) IDENTIFICATION: SCRIBE B/N PER QSI 044 6.4
- 8) WEIGHT: 0.31 lbs
- 9) ALL NON DIMENSIONED FEATURES PER CAD FILE "D3674-4RevB.STP/SLDPRT"



VIEW G-G

RELEASED
2016-07-26

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	RQ	D3674	SHEET 5 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	NTS
DATE	16.06.01	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

ITEM	QTY -045	P/N	DESCRIPTION
	X	D3674-045	ROLLER BRACKET ASSEMBLY
1	1	D3674-5	ROLLER BRACKET
2	1	D3674-7	GUIDE
3	1	D3137-5	WASHER
4	1	MS24694-S100	SCREW, CSK 100*

D3674-5
ROLLER BRACKET

D3674-045 ROLLER BRACKET ASSEMBLY

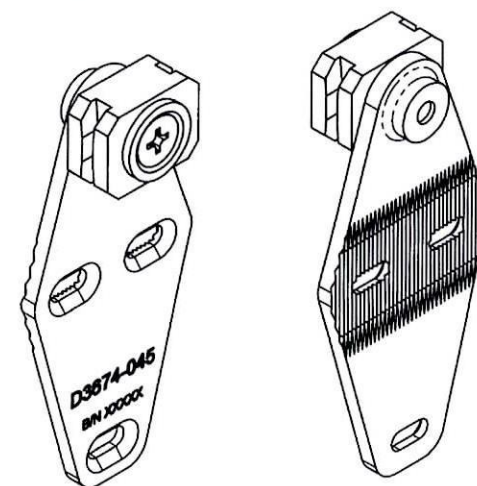
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.26 lbs
- 8) TORQUE MS24694-S100 BOLT 50-70 in lbs (5.6-7.9 Nm)

D3674-7
GUIDE
D3137-5
WASHER

MS24694-S100
SCREW, CSK 100*

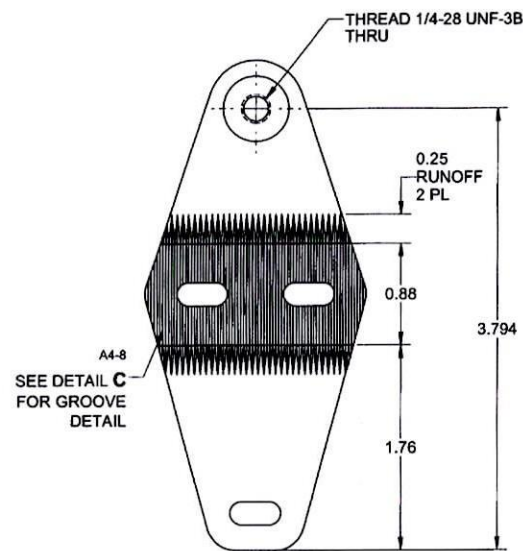
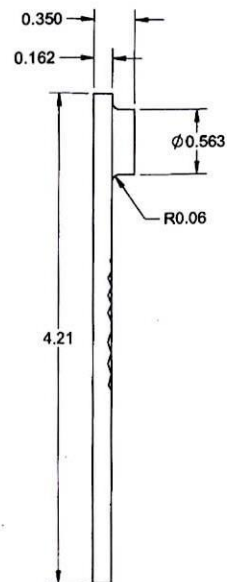
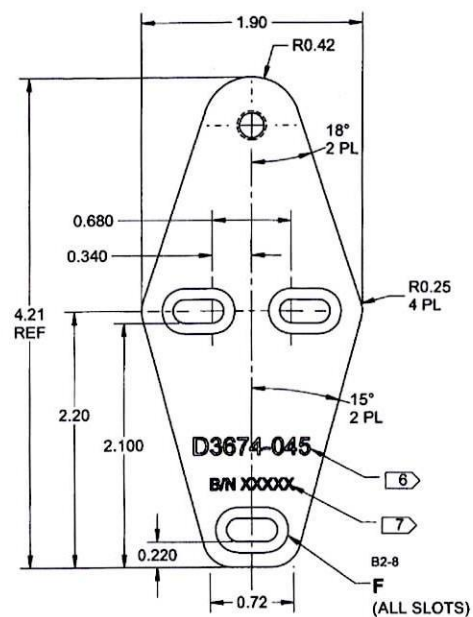
D3674-045
B/N XXXXX



RELEASED
2016 -07- 2 6

APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	RQ	D3674	SHEET 6 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	NTS
DATE	16.06.01	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



D3674-5 ROLLER BRACKET $\triangle B$

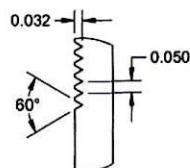
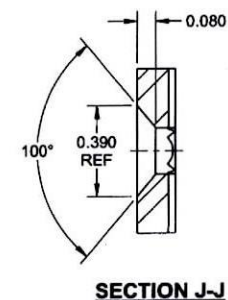
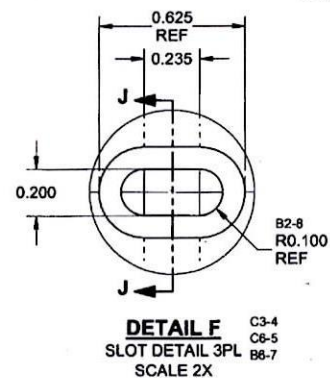
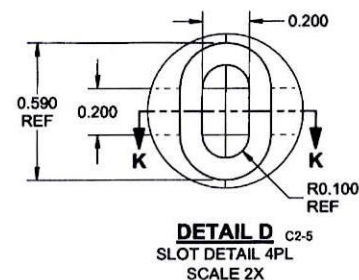
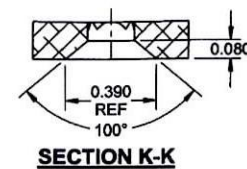
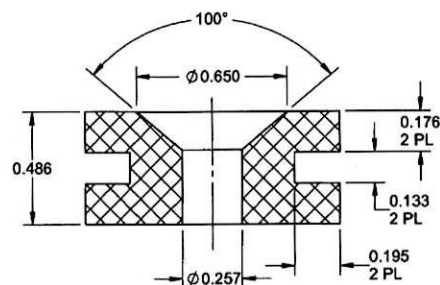
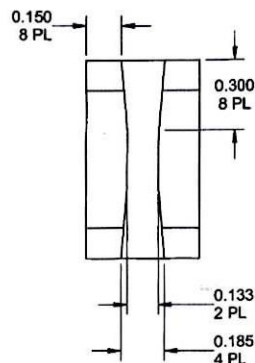
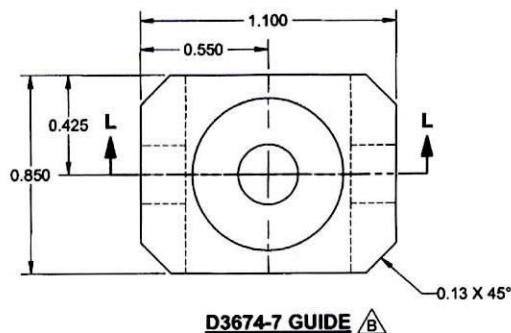
NOTES:

- 1) MATERIAL: 17-4 PH. STAINLESS STEEL BAR
PER AMS 5604/5643
GRAIN DIRECTION MUST BE ALONG THE LENGTH OF THE BRACKET
MINIMUM YIELD TENSILE STRENGTH = 100 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 150 ksi
REF. DART SPEC. M17-4-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3674-045" WITH 0.15 HIGH LETTERS TO A
MAX DEPTH OF 0.010 IN AREA SHOWN.
- 7) IDENTIFICATION: SCRIBE B/N PER QSI 044 6.4
- 8) WEIGHT: 0.24 lbs
- 9) ALL NON DIMENSIONED FEATURES PER CAD FILE "D3674-5RevB.STP/SLDPRT"

RELEASED
2016-07-26

APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	RQ	D3674	SHEET 7 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	NTS
DATE	16.06.01	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



- NOTES:**
- 1) MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL, BAR
REF DART SPEC M-DELIRIN-B
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER DART QSI 044
 - 7) WEIGHT: 0.02 lbs

RELEASED
2016-07-26

APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	RQ	D3674	SHEET 8 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	ROLLER BRACKET ASSEMBLY	NTS
DATE	16.06.01	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DART AEROSPACE LTD		Work Order: 150038
Description: Roller bracket assy		Part Number: D3674-3
Inspection Dwg: D3674 Rev: B		Page 1 of 1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.162	$\pm .030$	.162	✓		Vern M1-06	
4.26	$\pm .030$	4.260	✓		"	
1.89	$\pm .030$	1.891	✓		"	
1.16	$\pm .030$	1.160	✓		"	
2.08	$\pm .030$	2.080	✓		"	
.36	$\pm .030$	.360	✓		"	
R.25	$\pm .030$	R.250	✓		R-G	
R.19	$\pm .030$	R.190	✓		"	
R.19	$\pm .030$	R.190	✓		"	
R.25	$\pm .030$	R.250	✓		"	
R.13	$\pm .030$	R.130	✓		"	
Ø.392	$\pm .002$	Ø.3931	✓		Vern M1-06	
R.29	$\pm .030$	R.290	✓		R-G	
R.50	$\pm .030$	R.500	✓		"	
3.954	$\pm .010$	3.950	✓		Vern M1-06	
.162	$\pm .010$	.166	✓		"	
.995	$\pm .010$	.996	✓		"	
Ø.201 X .100	$\pm .010 \times \pm .010$	.201 X .098	✓		"	
1.18	$\pm .030$	1.180	✓		"	
.10	$\pm .030$	.100	✓		"	
5.323	$\pm .010$	5.320	✓		"	
5.036	$\pm .010$	5.035	✓		"	
2.49	$\pm .030$	2.485	✓		"	
2.385	$\pm .010$	2.385	✓		"	
1.555	$\pm .010$	1.555	✓		"	
.265	$\pm .010$	.265	✓		"	
13°	$\pm 1/2^\circ$	13°	✓		C-Square	
11°	$\pm 1/2^\circ$	11°	✓		"	
.795	$\pm .010$	.795	✓		Vern M1-06	
R.25	$\pm .030$	R.250	✓		R-G	
R.19	$\pm .030$	R.190	✓		"	
.182	$\pm .010$	.180	✓		Vern M1-06	

Measured by: <i>mx</i>	Checked by: <i>49</i>	QC Inspector:
Date: 16/08/25	Date: 16/08/30	Date:

Engineering Approval: (If necessary)	Date:
--	--------------

Rev	Date	Change	Revised by	Approved
B	14.07.31	New Issue	KJ	

